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IN THE CLAIMS:

U.S.S.N. 10/064,758

- 1. (currently amended) A light coupling apparatus for coupling a linear diode laser array to an optical fiber, said light coupling apparatus comprising:
- a wedge-shaped coupling element <u>including an input surface and an output surface</u>, <u>said_coupling_element</u> having a height (h) substantially equal to a length defined by said linear diode laser array, <u>and</u> said coupling element having a length (L) extending from [[an]] <u>said</u> input surface <u>and</u> to [[an]] <u>said</u> output surface[[,]];

wherein said input surface receiving receives emitted light directly from a plurality of diode lasers within said linear diode laser array, said input surface having has a first width (w1) facetted in a direction along [[the]] said height (h) to direct said light towards said output surface having a second width (w2), and said input surface being is curved in a direction perpendicular to said height (h) to substantially collimate said light.

- 2. (currently amended) The light coupling apparatus of claim 1, wherein said first width (w1) is greater than or equal to said second width (w2).
- 3. (currently amended) The light coupling apparatus of claim 2, wherein said second width (w2) is substantially equal to a diameter of said optical fiber.
- 4. (currently amended) A method of coupling the output of a linear diode laser array into an end of an optical fiber, said method comprising the steps of:

directly optically coupling along a linear axis spaced at a first distance (d1) distance (d) from said linear diode laser array a wedge-shaped coupling element having a height (h) substantially equal to a length defined by said linear diode laser array, said coupling element receiving emitted light directly from a plurality of diode lasers within said linear diode laser array and directing said light toward an output surface having a second width (w2) by way of an input surface having a first width (w1) facetted in a direction along said height (h) and curved in a direction perpendicular to said height (h); and

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optically coupling light from said output surface <u>and</u> into an end of the optical fiber, said optical fiber having a diameter substantially equal to said second width (w2).

- 5. (currently amended) [[A]] <u>The</u> method according—to of claim 4, wherein said first width (w1) is greater than or equal to said second width (w2).
- 6. (currently amended) A light coupling apparatus for coupling a linear diode laser array to an optical fiber, said light coupling apparatus comprising:

a cylindrical lens positioned adjacent and substantially parallel to the linear diode laser array, said cylindrical lens having a length substantially equal to a length of [[the]] said linear diode laser array, said cylindrical lens receiving emitted light from a plurality of diode lasers within said linear diode laser array and collimating said light; and

a wedge-shaped coupling element <u>situated</u> between said cylindrical lens and said optical fiber, <u>said coupling element including an input surface and an output surface, said coupling element positioned adjacent said cylindrical lens for thereby receiving collimated light directly from said cylindrical lens via said input surface, said coupling element having a length (L) extending from [[an]] <u>said</u> input surface <u>and</u> to [[an]] <u>said</u> output surface, <u>said coupling element having a height (h) and</u> said input surface having a radius of curvature along [[a]] <u>said</u> height (h), said height (h) being substantially equal to <u>said length of</u> said cylindrical lens length, said coupling element tapering from said input surface <u>and</u> to said output surface, said input surface having an associated first width (w1) and said output surface having an associated second width (w2), [[the]] <u>said</u> first width (w1) being substantially equal to a diameter of said cylindrical lens, and [[the]] <u>said</u> second width (w2) being substantially equal to a diameter of said diameter of said optical fiber.</u>

7. (currently amended) The light coupling apparatus of claim 6, wherein said first width (w1) is greater than or equal to said second width (w2).

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- 8. (currently amended) The light coupling apparatus of claim 6, wherein said cylindrical lens has a <u>cross section that is</u> circular, elliptical, or hyperbolic cross-section.
- 9. (currently amended) The light coupling apparatus of claim 6, wherein said length (L) of said coupling element length (L) is approximately [[10mm]] 10 millimeters (mm), and said first width (w1) and said second widths width (w2) are each approximately 1 to 3 [[mm]] millimeters (mm).
- 10. (currently amended) The light coupling apparatus of claim 6, wherein said cylindrical lens is at a first distance (d1) from said linear diode laser array, [[and]] said input surface of said coupling element is at a second distance (d2) from said cylindrical lens, and wherein said first distance (d1) and second distances are is substantially equal to said second distance (d2).
- 11. (currently amended) The light coupling apparatus of claim 6, wherein said radius of curvature of said input surface of said coupling element input surface is configured to minimize reflection of received light from interior sides of said coupling element.
- 12. (currently amended) The light coupling apparatus of claim 11, wherein said length (L) of said coupling element length (L) and said height (h) of said input surface height (h) of said coupling element are configured such that an angular spread of light within said coupling element matches an acceptance angle of said optical fiber.
 - 13. (currently amended) A lighting apparatus comprising:
- a linear diode laser array comprising a plurality of spaced-apart diode lasers each emitting divergent laser light;
- a cylindrical lens positioned at a first distance (d1) <u>from</u> and substantially parallel to [[the]] <u>said</u> linear diode laser array, said cylindrical lens having a length substantially

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equal to a length defined by said plurality of diode lasers, said cylindrical lens receiving emitted light from said plurality of diode lasers and collimating said light; and

a wedge-shaped coupling element having an input surface and an output surface, said coupling element positioned at a second distance (d2) from said cylindrical lens for thereby receiving collimated light directly from said cylindrical lens via said input surface, said coupling element having a length (L) extending from [[an]] said input surface and to [[an]] said output surface, said coupling element having a height (h) and said input surface having a radius of curvature along [[a]] said height (h), said height (h) being substantially equal to said length of said cylindrical lens length, said coupling element tapering from said input surface and to said output surface, said input surface having an associated first width (w1) and said output surface having an associated second width (w2), [[the]] said first width (w1) being substantially equal to a diameter of said cylindrical lens; and

an optical fiber adjacent said output surface of said coupling element, said second width (w2) of said output surface of said coupling element being substantially equal to a diameter of said optical fiber.

- 14. (currently amended) The <u>light-coupling lighting</u> apparatus of claim.

 13. wherein said first width (w1) is greater than or equal to said second width (w2).
- 15. (currently amended) The <u>light-coupling lighting</u> apparatus of claim 13, wherein said cylindrical lens has a <u>cross section that is</u> circular, elliptical, or hyperbolic cross-cection.
- 16. (currently amended) The <u>fight-coupling lighting</u> apparatus of claim 13, wherein <u>said length (L) of said coupling element length (L) is approximately [[10mm]] 10 millimeters (mm), and said first <u>width (w1)</u> and <u>said second surface widths width (w2)</u> are <u>each</u> approximately 1 to 3 [[mm]] millimeters (mm).</u>

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- 17. (currently amended) The <u>light-coupling lighting</u> apparatus of claim 13, wherein said first <u>distance (d1)</u> and second distances are is substantially equal to said second distance (d2).
- 18. (currently amended) A method of coupling the output of a linear diode laser array into an end of an optical fiber, said method comprising the steps of:

optically coupling along a linear axis spaced at a first distance (d1) from said linear diode laser array a cylindrical lens having a length substantially equal to a length defined by said linear diode laser array, said cylindrical lens receiving emitted light from a plurality of diode lasers within said <u>linear diode laser</u> array and collimating said light;

directly optically coupling the collimated light from said cylindrical lens and into a wedge-shaped coupling element having an input surface and an output surface, said coupling element positioned at a second distance (d2) from said cylindrical lens and having a length (L) extending from [[an]] said input surface and to [[an]] said output surface, said coupling element having a height (h) and said input surface having a radius of curvature along [[a]] said height (h), said height (h) being substantially equal to said length of said cylindrical lens length, said coupling element tapering from said input surface and to said output surface, said input surface having an associated first width (w1) and said output surface having an associated second width (w2), [[the]] said first width (w1) being substantially equal to a diameter of said cylindrical lens; and

optically coupling light from said output surface of said coupling element and into an end of the optical fiber, said optical fiber having a diameter substantially equal to said second width (w2).

- 19. (currently amended) The method of claim 18, wherein said first width (w1) is greater than or equal to said second width (w2).
- 20. (currently amended) The method of claim 18, wherein said cylindrical lens has a cross section that is circular, elliptical, or hyperbolic cross-section.